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UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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ART UNIT	PAPER NUMBER
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Please find below and/or attached an Office communication concerning this application or proceeding.

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PTO-90C (Rev. 10/03)

	Application No.	Applicant(s)
Office Action Summary	09/910,657	JAEPEL ET AL.
	Examiner	Art Unit	
	Martin Lerner	2626	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on *16 October 2006*.
2a) ☐ This action is **FINAL**.　　2b) ☒ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) *1 to 8, 11 to 18, 46 to 53, 56 to 66, and 69 to 71* is/are pending in the application.
　　4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) *1 to 8, 11 to 18, 46 to 53, 56 to 66, and 69 to 71* is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.
10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
　　Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
　　Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
　　a) ☒ All　b) ☐ Some * c) ☐ None of:
　　　1. ☒ Certified copies of the priority documents have been received.
　　　2. ☐ Certified copies of the priority documents have been received in Application No. _____.
　　　3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
　　* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
　　Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413)
　　Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 1 to 8, 11 to 18, 46 to 53, 56 to 66, and 69 to 71 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claims contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventors, at the time the application was filed, had possession of the claimed invention.

The limitation of "randomly" receiving non-voice input constitutes new matter because Applicants' Specification, as originally filed, does not expressly disclose "randomly" receiving non-voice input, and one having ordinary skill in the art would find that it is misdescriptive to say that non-voice input of receiving an e-mail is "randomly" received. Applicants are attempting to draw an invalid distinction between their disclosed speech recognition system and the prior art. One having ordinary skill in the art would not say that an e-mail is random. Of course, nobody knows what the content of an e-mail not yet received will be, but that doesn't make the content of the e-mail random. Any e-mail is still sent in a language (*e.g.* English), consisting of a vocabulary in that language, and adheres to grammatical conventions. An e-mail is not a random sequence of letters and words. Applicants' Specification, as originally filed, does not

anywhere characterize receiving non-voice input as "random", and there is no basis

supporting a claim limitation of "randomly" receiving input from the Specification. Thus,

the claim limitation of "randomly" receiving non-voice input does not comply with the

written description requirement of 35 U.S.C. §112, 1st ¶, because the limitation

constitutes new matter and is misdescriptive of Applicants' disclosed speech recognition

system and program code.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1 to 8, 11 to 13, 15 to 17, 46 to 53, 56 to 58, 60 to 62, 64 to 66, and 69 to

71 are rejected under 35 U.S.C. 103(a) as being unpatentable over *Young et al.* in view

of *Thelen et al. ('551)*.

Concerning independent claims 1, 46, and 64, *Young et al.* discloses a speech

recognition system and computer program, comprising:

"preparing a first textual output from a speech signal by performing a speech

recognition task to convert a speech signal into said first textual output, wherein said

context-enhanced database is accessed to improve the speech recognition rate,

wherein said speech signal is parsed into a plurality of computer processable speech

segments, wherein said first textual output comprises a plurality of text segments, each

corresponding to one of the computer processable speech segments, and wherein

selected ones of the text segments are generated by matching a computer processable

speech segment against an entry within the context-enhanced database, said context-

enhanced database including a plurality of entries, each entry comprising a speech

utterance and a corresponding textual segment for the speech utterance" – recognizer

215 receives and processes frames ("parsed into a plurality of computer processable

speech segments") of an utterance to identify text ("a first textual output") corresponding

to the utterance ("a speech signal"); scores represent how well frames of an utterance

match text hypotheses (column 4, lines 34 to 51: Figure 2); recognizer 215 processes

frames 210 of an utterance in view of one or more constraint grammars 225 for placing

a limitation on the order or grammatical form of the words ("a plurality of text segments")

(column 4, lines 62: Figure 2); a constraint grammar ("a content-enhanced database")

can include a language model for an active vocabulary or dictation topic vocabulary file

(column 5, line 56 to column 6, line 40: Figure 2); a language model for a vocabulary file

improves a speech recognition rate by matching entries of utterances with

corresponding words;

"enabling editing of said first textual output to generate a final voice-generated

output" – a user may invoke an appropriate correction command when the system

makes a recognition error (column 16, lines 26 to 65: Figures 13A to 13N);

"making said final voice-generated output available" – best-scoring recognition

candidates corresponding to dictated text are provided to an active application, such as

a word processor, and are displayed through a graphical user interface (column 15,

lines 17 to 24: Figure 2).

Concerning independent claims 1, 46, and 64, *Young et al.* discloses active

vocabularies that change based upon active applications currently executing upon the

computer system, but omits randomly receiving non-voice input in a computer system

communicatively linked to the speech recognition system, said input comprising at least

one of text contained in an e-mail sent or received by the user, information in a

document attached to an e-mail sent or received by the user, information in a document

viewed by the user on a display of the computer system, information in a plurality of

linked documents accessible to the computer system, information in a spread sheet

executing on the computer system, call center information received via a facsimile

device connected to the computer system, call center information received via a calling

device connected to the computer system, and information recorded by a web browser

executing on the computer system, and creating a word list defining a context-enhanced

database based upon said input or modifying an existing context-enhanced database by

adding a word list created based upon said input. However, *Thelen et al. ('551)*

discloses a system for creating a vocabulary and/or language model for a speech

recognition system from a set of documents based on a search criterion (Abstract),

comprising:

"randomly receiving non-voice input in a computer system communicatively

linked to the speech recognition system, said input comprising at least one of text

contained in an e-mail sent or received by the user, information in a document attached

to an e-mail sent or received by the user, information in a document viewed by the user

on a display of the computer system, information in a plurality of linked documents

accessible to the computer system, information in a spread sheet executing on the

computer system, call center information received via a facsimile device connected to

the computer system, call center information received via a calling device connected to

the computer system, and information recorded by a web browser executing on the

computer system" – a vocabulary and/or language model is created by selecting

documents from a set of documents based on a search criterion; by searching for

documents based on a search criterion derived from a context identifier, pertinent

documents are collected in an effective manner, increasing the quality of recognition; in

one embodiment, the context identifier comprises one or more keywords, which acts as

a search criterion, based on which the documents are selected; in another embodiment,

the set of documents is formed by a document database or document file system in a

distributed computer system; this allows for centrally storing (e.g. in a server) a larger

set of documents than would normally be feasible to store or provide to a client

computer; alternatively, a very large set of documents may be distributed over several

servers, as over the Internet (column 3, line 20 to column 4, line 27; column 6, lines 11

to 45); the content is derived from a distributed computer system or a set of documents

distributed over several servers or the Internet ("information in a plurality of linked

documents accessible to the computer system"); a set of documents distributed over

several servers is "a plurality of linked documents"; although the received documents

are collected based upon search criteria, the content of the collected documents are

received "randomly" because the content of the received documents varies considerably within the search parameters, is probabilistic and nondeterministic;

"creating a word list defining a context-enhanced database based upon said input or modifying an existing context-enhanced database by adding a word list created based upon said input" – a vocabulary and/or language model is created by selecting documents from a set of documents based on a search criterion; by searching for documents based on a search criterion derived from a context identifier, pertinent documents are collected in an effective manner, increasing the quality of recognition; (column 3, line 20 to column 4, line 27; column 6, lines 11 to 45); a vocabulary is equivalent to "a word list", and the vocabulary or language model is a "context-enhanced database".

Concerning independent claims 1, 46, and 64, *Thelen et al. ('551)* teaches that creating a vocabulary and/or language model from a set of documents distributed over several servers of the Internet has an advantage of increasing the quality of recognition by ensuring that pertinent language elements are covered, and excluding many irrelevant language elements, leading to faster recognition, and creation of a relatively small vocabulary or language model. (Column 3, Lines 26 to 43) Thus, it is suggested that documents relevant for a specific category of user, such as a radiologist, a surgeon, or a legal practitioner, can be created. (Column 3, Lines 11 to 20) It would have been obvious to one having ordinary skill in the art to create a vocabulary and/or language model from randomly received information in a plurality of linked documents accessible to the computer system for a speech recognition system as taught by *Thelen et al.*

('551) in the speech recognition and computer program of *Young et al.* for a purpose of

increasing the quality of recognition by ensuring that pertinent language elements are

covered, and excluding many irrelevant language elements, leading to faster

recognition, and creation of a relatively small vocabulary or language model.

Concerning claims 2, 7, 47, and 52, *Young et al.* discloses speech recognition for

dictation of words of text.

Concerning claims 3 to 5, 15, 48 to 50, 60, and 65 to 66, *Young et al.* discloses a

complete dictation vocabulary consists of an active vocabulary plus a backup dictionary

245; a system-wide backup dictionary contains all words known to the system; word

searches of the backup vocabularies start with the user-specific backup dictionary and

then check the system-wide backup dictionary ("before another database is searched")

("a second database is accessed to a find a matching word . . . for which no matching

word was found"); a user may add a word to a dictation vocabulary and a user-specific

backup vocabulary ("the context-enhanced database is created from said input and from

entries within the second database") (column 15, line 51 to column 16, line 25).

Concerning claims 6 and 51, *Young et al.* discloses that at least (c) and (d) and

(e) are performed concurrently as recognized text is displayed during dictation and

editing (column 15, line 13 to column 16, line 65: Figure 2).

Concerning claims 8 and 53, *Young et al.* discloses speech recognition is

performed in conjunction with a particular application (e.g., as Microsoft Word™), and

updating the active vocabulary to include a constraint grammar associated with the

application and a dictation vocabulary (column 15, lines 31 to 66: Figure 2); thus,

speech recognition is performed "in light of entries included in" a dictation vocabulary

("said context-enhanced database").

Concerning claims 11, 56, and 69, *Thelen et al. ('551)* discloses that a context

identifier can consist of a set of keywords, or a sequence of words, which act as a

search criterion to search for and select a training corpus for a vocabulary and/or

language model of a speech recognition system (column 3, lines 43 to 58); a set of

keywords for selecting documents from a larger set of documents are equivalent to "a

word list" for "creating the context-enhanced database from those entries of a context-

independent database", respectively.

Concerning claims 12 to 13 and 57 to 58, *Young et al.* discloses displaying text

on a graphical user interface of a word processor (column 15, lines 17 to 24: Figure 2);

text is temporarily stored in memory 145 of a computer 125 (column 3, lines 44 to 48:

Figure 1).

Concerning claims 16 to 17, 61 to 62, and 70 to 71, *Young et al.* discloses that

when a particular application is opened ("detecting an event") ("automatically detecting

a change"), a new constraint grammar is activated ("automatically deriving new input"),

and the control interface updates the active vocabulary ("responsively updating said

context-enhanced database") (column 4, lines 62 to 67: Figure 2; column 15, lines 31 to

38).

Claims 14 and 59 are rejected under 35 U.S.C. 103(a) as being unpatentable over *Young et al.* in view of *Thelen et al.* *('551)* as applied to claims 1 and 46 above, and further in view of *Mitchell et al.*

Young et al. does not expressly disclose the features of highlighting words having a predetermined likelihood of misinterpretation. However, *Mitchell et al.* teaches highlighting words on a display for which a score is less than a threshold score. (Column 10, Lines 12 to 18: Figure 8b: Steps S72 and S73) It is suggested that an advantage is a processing means that permits any application running on a processor that enables character data from speech recognition to be entered and manipulated. (Column 2, Lines 45 to 55) It would have been obvious to one having ordinary skill in the art to highlight words having a predetermined likelihood of misinterpretation as suggested by *Mitchell et al.* in the speech recognition system of *Young et al.* for the purpose of permitting any application running on a processor to enable speech recognition.

Claims 18 and 63 are rejected under 35 U.S.C. 103(a) as being unpatentable over *Young et al.* in view of *Thelen et al.* *('551)* as applied to claims 1 and 46 above, and further in view of *Baker et al.*

Young et al. omits a meaning variants database and a synonym lexicon. However, it is known in speech recognition to utilize a thesaurus. *Baker et al.* teaches a reference source 40, which includes a dictionary and thesaurus ("meanings variants database" and "synonym lexicon"). (Column 15, Lines 5 to 8) It is stated that problems

with prior art recognition systems are avoided by performing semantic and linguistic

analysis through language knowledge. (Column 4, Line 64 to Column 5, Line 8) It

would have been obvious to one having ordinary skill in the art to utilize a thesaurus as

taught by *Baker et al.* in the speech recognition system of *Young et al.* for the purpose

of avoiding prior art problems through language knowledge.

Response to Arguments

Applicants' arguments filed 16 October 2006 have been fully considered but they

are not persuasive.

Applicants argue that the claims are patentable because the prior art does not

disclose randomly receiving input. Applicants maintain that telephony signals, serially

generated character strings representing words, and communications signals are

random signals. Applicants say a signal is random, rather than deterministic, because it

cannot be anticipated in advance of being received. Specifically, Applicants contend

that an e-mail is random because its input cannot be deterministically anticipated in

advance. Applicants characterize the vocabulary of *Young et al.* as being directed to a

topic, and thus, cannot be random. These arguments are traversed.

Firstly, the limitation of "randomly" receiving non-voice input for creating a word

list fails to meet the written description requirement of 35 U.S.C. §112, 1st ¶ because it

constitutes new matter and is misdescriptive of Applicants' claimed system and program

code. Applicants' Specification as originally filed does not in any way characterize the

input to construct a context-enhanced database as being "randomly" received. Nor

would one having ordinary skill in the art characterize a received input from an e-mail as being "random". Random is a word that has many meanings in various contexts, but would not aptly describe the contents of an e-mail. An e-mail is written in a natural language (e.g., English), conforms to grammatical structures, consists of words rather than random letters, and common words have a higher probability of occurrence than uncommon words. An e-mail, or any natural language document, can be compressed by arithmetic coding, showing that the content is not truly random. Thus, Applicants' limitation of "randomly" receiving non-voice input fails to meet the written description requirement of 35 U.S.C. §112, 1st ¶ because it is new matter as not supported by Applicants' Specification, and because it misdescribes and mischaracterizes Applicants' claimed system and program code.

Secondly, it is maintained that the combination of Young et al. and Thelen et al. ('551) meets the limitation of "randomly" receiving non-voice input to create a context-enhanced database, within Applicants' definition of randomness. It is noted that Applicants do not limit the creation of a context-enhanced database to text received in an e-mail, although neither Young et al. nor Thelen et al. ('551) discloses creating a context-enhanced database from e-mail. However, it is maintained that Applicants are claiming creating a context-enhanced database from randomly received information in a plurality of linked documents. Thelen et al. ('551) discloses creating a vocabulary or language model from a set of documents in a document database of a distributed computer system, too. (Column 3, Line 20 to Column 4, Line 27; Column 6, Lines 11 to 45) The precise content of the documents of Thelen et al. ('551) can be described as

"random" because, under Applicants' definition, the totality of the content of the

documents is not known in advance. The contents of the documents obey a

probabilistic distribution, so even though the precise content of any of the documents is

nondeterministic, the word distribution is probabilistic and random. Granted, *Thelen et*

al. ('551) discloses selecting the documents by a search criteria, still, the content of the

documents selected by the search criteria is not known in advance, and, thus, is

nondeterministic and random. The precise content of the vocabulary or language model

created by the search criteria is a function all of the words in the documents, and not

simply the search terms.

Therefore, the rejections of claims 1 to 8, 11 to 18, 46 to 53, 56 to 66, and 69 to

71 under 35 U.S.C. 112, first paragraph, as failing to comply with the written description

requirement; of claims 1 to 8, 11 to 13, 15 to 17, 46 to 53, 56 to 58, 60 to 62, 64 to 66,

and 69 to 71 under 35 U.S.C. 103(a) as being unpatentable over *Young et al.* in view of

Thelen et al. ('551); of claims 14 and 59 under 35 U.S.C. 103(a) as being unpatentable

over *Young et al.* in view of *Thelen et al. ('551)*, and further in view of *Mitchell et al.*; and

of claims 18 and 63 under 35 U.S.C. 103(a) as being unpatentable over *Young et al.* in

view of *Thelen et al. ('551)*, and further in view of *Baker et al.*, are proper.

Conclusion

The prior art made of record and not relied upon is considered pertinent to

Applicants' disclosure.

Ramaswamy et al. discloses related art.

Applicants' amendment necessitated the new grounds of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicants are reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.
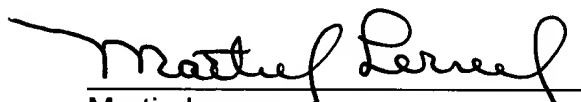
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Martin Lerner whose telephone number is (571) 272-7608. The examiner can normally be reached on 8:30 AM to 6:00 PM Monday to Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David R. Hudspeth can be reached on (571) 272-7843. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the

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ML
10/26/06

Martin Lerner
Examiner
Group Art Unit 2626